

claims

1. Highly oxidation resistant component (1),
having a substrate (4),
5 a protective layer (17),
which consists of
an intermediate MCrAlY layer zone (16) on or near the substrate (4),
which has the composition (in wt%): 10% - 50% Co, 10% - 40% Cr, 6% -
15% Al, 0,02% - 0,5% Y, Ni base,
10 and an outer layer zone (19)
which has the structure of the phase γ -Ni and has a content of
Aluminum of up to 6.5wt% and
consists of pure γ -Ni phase and
which has the composition (in wt%): 15 - 40% Cr, 5 - 80% Co, 3 - 6.5%
15 Al and Ni base,
wherein the outer layer zone (19) is onto the intermediate MCrAlY
layer zone (16),
wherein M is at least one element out of the group Co, Fe, Ni.
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2. Component according to claim 1,
wherein the protective layer (17) consists of two separated layers
(16, 19).
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3. Component according to claim 1,
with a continuously graded concentration of the composition of the
intermediate and outer zone (16, 19) inside the protective layer
(17).
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4. Component according to claim 1,
wherein the outer layer zone (19) is thinner than the intermediate
layer (16) on or near the substrate (4).
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5. Component according to claim 1,
wherein the intermediate MCrAlY-layer (16) or the outer layer zone

(19) contains at least one further element such as (in wt%): 0,1% - 2% Si, 0,2% - 8% Ta or 0,2% - 5% Re.

6. Component according to claim 1,
5 wherein the Yttrium of MCrAlY of the intermediate MCrAlY zone (16) or the outer zone (19) is added and/or at least partly replaced by at least one element out of the group Hf, Zr, La, Ce and/or other elements of the Lanthanide group.
- 10 7. Component according to claim 1,
wherein the outer layer (19) zone has the composition (in wt%): 20 - 30% Cr, 10 - 30% Co, 5 - 6% Al and Ni base.
8. Component according to claim 1,
15 wherein the MCrAlY layer zone (16, 19) contains Ti (Titanium) and/or Sc (Scandium).
9. Component according to claim 1,
wherein on the outer layer zone (19) a thermal barrier coating (13)
20 is formed.
10. Component according to claim 5,
wherein the rhenium content (Re) is between 0.2 and 2wt%.
- 25 11. Component according to claim 9,
wherein a heat treatment prior to applying a thermal barrier coating is carried out
in an atmosphere with a low oxygen partial pressure,
especially at 10^{-7} and 10^{-15} bar.

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